

DISTRIBUTED NETWORK TRANSACTION SYSTEM AND METHOD

BACKGROUND OF THE INVENTION

1. Field of the Invention

[0001] The present invention relates generally to automated transaction management, and in particular to a system and method for managing e-commerce transactions using an Internet (world wide web) based distributed network with a central exchange server networked to multiple broker computers.

2. Discussion of the Related Art

[0002] Various systems and methodologies have previously been developed for managing commercial transactions involving buyers, sellers, brokers, agents and other participants. The objects of the transactions can comprise goods and/or services.

[0003] The Internet (world wide web) has produced many opportunities for transacting business quickly and efficiently, as compared to more traditional business transaction methods. Transacting business via the Internet is sometimes referred to as "electronic commerce" or "e-commerce". Among its many advantages is the ability to provide virtually instantaneous, i.e. "real-time", communication among the participants. Orders can be instantly taken and processed online from Internet-linked terminals located all over the world.

[0004] The instantaneous, real-time aspect of e-commerce particularly lends itself to date-sensitive transactions, i.e. those presenting relatively limited opportunities for concluding transactions. For example, tickets to date-specific events and for date-specific services generally become worthless after expiration. Sporting and entertainment events are typically booked

months in advance and tickets are presold through various distribution trade channels and ticket outlets, including e-commerce. The sports and entertainment industries allocate considerable resources to matching ticket demand and supply in order to maximize event attendance and revenue. Although large portions of available seats are presold months in advance, tickets are often in high demand up to the last minute. Therefore, an efficient distribution model for tickets to date-specific events and services would match sellers holding tickets with buyers in the largest possible customer base, and provide instantaneous, real-time access to such information.

[0005] Ticket brokers operating in many areas buy and sell tickets to various sports and entertainment events. Although the markets tend to be somewhat localized to particular venues, transactions are routinely done on a national or even international basis. For example, through their web pages ticket brokers may encounter opportunities to purchase tickets from sellers and sell tickets to buyers in global markets. Moreover, ticket distribution lends itself to broker-to-broker ("B2B") transactions as different brokers trade amongst themselves in order to fulfill specific customer requests. However, automating ticket transactions among brokers with different inventories and marketing objectives can involve handling large amounts of data. A need therefore exists for automating the management of e-commerce transactions involving tickets and other goods and services.

[0006] Heretofore there has not been available a transaction management system and method with the advantages and features of the present invention.

BRIEF DESCRIPTION OF THE INVENTION

[0007] In the practice of one aspect of the present invention, a system is provided for managing commercial transactions. The system includes a distributed network comprising a central exchange computer linked to multiple customer/vendor computer systems. Transaction objects comprising goods and/or services can be bought and sold using various flexible, redefinable rules governing various aspects of the transactions. The system is adapted to interface with other automated business systems, including shipping and bookkeeping.

BRIEF DESCRIPTION OF THE DRAWINGS

[0008] The drawings constitute a part of this specification and include exemplary embodiments of the present invention and illustrate various objects and features thereof.

[0009] Fig. 1 is a block diagram showing a distributed network embodying one aspect of the system of the present invention.

[0010] Fig. 2 is a block diagram of the distributed network, showing components thereof.

[0011] Fig. 3 is a table showing broker transaction rules.

[0012] Fig. 4 is a flowchart showing the steps in a typical transaction.

[0013] Fig. 5 is a diagram of a broker web page.

[0014] Fig. 6 is a block diagram showing components of the system.

[0015] Figs. 7-9 are screen displays from a special order system (SOS) showing examples of functions.

[0016] Fig. 10 is a flowchart of a point-of-sale (POS) system transaction.

[0017] Figs. 11-76 are screen displays from the point-of-sale (POS) system for use by a broker affiliated with the system.

DETAILED DESCRIPTION OF THE INVENTION

[0018] As required, detailed embodiments and/or aspects of the present invention are disclosed herein; however, it is to be understood that the disclosed embodiments/aspects are merely exemplary of the invention, which may be embodied in various forms. Therefore, specific structural and functional details disclosed herein are not to be interpreted as limiting, but merely as a basis for the claims and as a representative basis for teaching one skilled in the art to variously employ the present invention in virtually any appropriately detailed structure.

[0019] Referring to the drawings in more detail, the reference numeral 2 generally designates a system for managing e-commerce transactions utilizing a distributed network 4 with a central exchange computer system 6 and multiple remote computer systems 8 (Fig. 1). Without limitation on the generality of useful applications of the system 2, an exemplary aspect or application thereof is described in connection with transactions involving tickets to events, such as sporting events, entertainment and theater. The distribution system for such merchandise includes a central administrator 10 associated with the central exchange computer 6 and a network of point-of-sale (POS) ticket brokers, affiliates or dealers 12 associated with respective remote computers 8. The ticket brokers 12 typically buy from and sell to their respective customers, who can comprise individual end users 14. The customers can also comprise other brokers 12 in connection with broker-to-broker (B2B) transactions.

[0020] Fig. 2 shows the central exchange system 6 with a message server 16 connected to an SQL server 18, which accesses an exchange database 20. An exchange web

service 22 connects the message server 16 to a web server 24. The components of the system 2 can be programmed with a number of different programming languages using various suitable programming techniques including, but not limited to, variations of C (e.g., C++, C#, etc.).

[0021] A web side 26 includes a web page 28 for direct interaction with other brokers 12 and with end users 14. A broker side 30 includes point-of-sale (POS) software 32 adapted for managing broker operations. The brokers 12 can interface with the central exchange system 6 through broker client applications 34, which can also be programmed with a number of different programming languages using various suitable programming techniques including, but not limited to, Visual Basic (VB). The brokers' POS software can comprise different levels of features and functionalities, such as the SQL server 36 with a full range of features and functionalities, and a MySQL server 38 for a reduced-feature application. The broker-controlled servers 36, 38 can access data in respective local databases 40 whereby the broker subscribers control their perspective data in their own databases 39, which are connected to respective remote computers 8 and can be physically located at the brokers' respective places of business. The brokers' computers 8 are adapted for downloading ticket information from and uploading or "pushing up" ticket information to the central exchange system 6 according to predetermined rules, at least some of which are controlled by the brokers 12, as described in more detail below.

Transactions and and

[0022] Without limitation on the generality of useful applications of the invention, an exemplary set of transactions, which can be managed by the system 2, is described as follows:

[0023] a) Buying and selling tickets directly to the central exchange system 6.

[0024] b) Posting tickets to the exchange 6 in either real-time (RT) corresponding to the tickets actually possessed (i.e., in inventory) by the broker 12, or in non real-time (NRT) representing orders for tickets to be fulfilled using the system's resources.

[0025] c) Adding customers, which can comprise either end-user customers 14 or other brokers 12, to the exchange database 20.

[0026] d) Reserving tickets.

[0027] e) Buying tickets.

[0028] f) Selling tickets.

[0029] g) Buying tickets and reselling to customers (single transaction).

[0030] h) Obtaining customer information.

[0031] i) Unreserving tickets.

[0032] j) Verifying ticket existence.

[0033] k) Updating exchange application through message server 16.

[0034] l) Remote debugging through the SQL 18.

[0035] m) Checking status of pending orders.

[0036] n) Obtaining remote order listing.

[0037] o) Generic exchange, i.e. getting invoice data, purchase order data and/or billing data including markups, without building a customer record.

[0038] p) Getting global updates and of events including downloading latest event lists from the central exchange server 6 and pushing up event lists from brokers 12 for comparison with current lists and updating same, if necessary.

Ticket Grouping

[0039] The ticket grouping function forms groups of tickets by internally matching certain criteria, such as event, date, time, section, row, face value and price. For example, when the queue record indicates that tickets are to be added to the exchange, the broker's local database 20 is searched for internal matches whereby groups are created. Customers requesting certain blocks of adjacent or contiguous seats at specific events can thus be accommodated. Moreover, the system forms such groups based on price whereby all of the tickets within particular groups have common pricing. Pricing can be considered in connection with face value, customer list price (corresponding to broker selling price) and broker wholesale price. Moreover, certain entities, such as the city of Chicago, impose sales tax on ticket sales, which is calculated by the system 2 and added to the ticket selling price. Moreover, certain states restrict prices for reselling tickets, which restrictions can be accommodated by the system 2 in connection with ticket pricing.

[0040] The ticket grouping function can increase system efficiency and transaction speed in connection with posting tickets. In particular, groups of tickets comprise less data than the same tickets handled individually, whereby less data is pushed back and forth and greater speed is realized when the grouping function is utilized for posting tickets.

Priced Events

[0041] Priced event transactions involve non real time (NRT) ticket inventory whereby brokers 12 can offer for sale tickets that they don't actually possess. Priced event tickets can be ordered by customers 14 in real-time (RT) transactions. The brokers 12 then

procure the necessary presold, priced event tickets by using the resources of the system 2, or by procuring them from their own sources. Real-time (RT) inventories, by contrast, comprise tickets actually possessed by the brokers 12.

[0042] Priced event sales occur in real-time when customers place orders for specific numbers of tickets to specific events. The system generally accommodates selecting seating areas in priced events. For example, seats are commonly located by section, row and seat number in many venues, with ticket pricing corresponding to seat locations. Thus, priced event customers can order tickets online with a particular broker 12 or with the central exchange 6. The orders can specify the seating areas. The central database 20 is then searched by the system and the orders are filled as tickets become available. The central exchange 6 provides seating section information for venues. For example, broker affiliates 12 can access graphical displays of seating in particular venues, with seating sections designated alphanumerically or in colors to assist in ticket selection for priced events and real-time purchases. For example, the information in a priced event order can comprise an identification of the event, the desired seating sections (e.g., by letter or color designation), ticket quantity and ticket price.

[0043] The priced event function of the present invention facilitates sharing inventory by the broker affiliates 12 to the exchange 6, thus broadening the potential customer base system-wide. However, the broker affiliate 12 relinquishes tickets from its own inventory, thus possibly losing the opportunity for direct sales. The system accommodates the broker affiliates by enabling them to set certain rules for offering and selling their tickets on the exchange. These rules are listed in Fig. 3, and generally provide control over such variables as the web sites on which particular ticket groups are shown, showing ticket groups on the exchange, which brokers'

tickets are shown on other brokers' web sites, pricing markups and quantity, event and other variable restrictions.

Other System Components

[0044] Fig. 4 shows the central exchange 6 in relation to other components of the system 2. The POS 32 is described in more detail below and generally manages transactions for the brokers 12, who interface with customers 14. An exchange application 52 connects to a database server 54, which in turn connects to a bookkeeping importer 56. The system can be adapted to interface with bookkeeping systems, including but not limited to QuickBooks software available from Intuit, Inc. of Mountain View, California 94039. The bookkeeping importer 56 provides for automated record insertion for financial accounting software. Other suitable bookkeeping software can be used with the system 2.

[0045] An event processor or special order system (SOS) 58 consists of a web-based bulletin board through which ticket inventories can be uploaded and is described in more detail below. The system further provides general exchange management, web site content management and shipping management. For example, a shipping manager system 60 can interface with various third party shipping service providers, such as overnight mail and courier services. The shipping manager system can ship, track and delete packages; print labels; provide customer information; generate various logs and reports; and print airbills. The central exchange system 6 provides RT and office-to-office order processing services.

[0046] A ticket uploader 50 is provided for uploading ticket inventories from other point-of-sale (POS) systems. Therefore, a broker utilizing another POS system can participate in the

distributed network 4 of the present invention. The participating broker installs a ticket uploader (TU) program and sets certain variables, such as the timing of automatic uploading at predetermined intervals. Alternatively, ticket inventories can be uploaded manually. The tickets uploaded from these other sources are automatically placed on the network. Therefore, an extensive inventory of tickets placed on the web can be placed on the central exchange 6 for distribution by the brokers 12. Software in the central exchange 6 is adapted for interfacing with other vending and distribution systems, such as online auctions. Thus, brokers can push up their inventories for sale through online, live auctions. The broker can control various aspects of auction participation, such as providing templates and managing content. Moreover, the central exchange 6 takes tickets off the exchange while they are involved in online auctions and returns them to the central exchange inventory after the auctions close, all under the direction of the participating broker 12, which can set rules for such transactions.

[0047] A website plug-in component 62 is available for the use of web customers 64 in creating their own websites for e-commerce utilizing the exchange network and the distributed network. A web page template 40 is shown in Fig. 5 and includes a body 42, which can display a default body provided by the system 2, or can be customized by the broker 12. A header 44 and a footer 46 are also provided and are adapted for customizing by a particular broker 12 or web customers 64. As shown in Fig. 5, the header 44 and the footer 46 wrap the body 42 and show on all pages of the web site. Examples of features available for customization by the brokers include plug-in fonts, sizes, colors, etc. Brokers 12 are thus able to graphically individualize their web sites for promoting their respective businesses and for distinguishing

them from other web sites. The body 42 typically includes a search page, search results, ASP events page and category lists. The HTML information is stored in the system database.

Special Order System (POS)

[0048] Figs. 6-9 show special order system (SOS) components and functionalities. Fig. 6 shows the screen displays for searching SOS events and providing ticket information, including "fake" tickets as described above. Fig. 7 is an SOS screen display showing possible ticket splits based on rules governing sales from packages of tickets. Fig. 8 shows broker settings, including markups. Fig. 9 shows web settings.

Point-of-Sale (POS)

[0049] Fig. 10 is a flowchart showing a typical transaction handled by the POS system associated with a broker 12. The following description of the point-of-sale (POS) system and methodology applies to the management of transactions by a broker affiliate 12. Fig. 11 is a screen display of settings for a full-featured version of the software, including transactional defaults. Fig. 12 shows the settings screen for a reduced-feature version of the software, which implements the system and methodology of the present invention. Fig. 13 shows the screens for entering a new purchase order (PO). Fig. 14 shows the screen for searching POs. Fig. 15 shows the screen for creating mass PO tickets. Fig. 16 shows the screen for searching for mass POs, advanced quotes or cancelled POs. Fig. 17 shows the screen for advanced quotes. Fig. 18 shows the screen for the PO queue. Fig. 19 shows the sales screen for pending preorders, utilizing the value event pricing function described above. Fig. 20 shows the screen for order completion.

Fig. 21 shows the inventory screen. The screen that is presented by selecting the "Set/Reserve" option is shown in Fig. 22.

[0050] Within the inventory/exchange grid different colors and icons can be used to provide certain information about the applicable tickets. For example, italics can indicate consignment inventory. Pink can identify reserved inventory. Green designates a block or group of tickets with section, row and seat information. Cost highlighted with yellow indicates that the PO has not yet been completed. NRT brokers are highlighted in yellow, and RT brokers are highlighted in green. The broker's name in pink indicates the broker's own tickets. "In" with a checkmark indicates that the tickets were added as "In Hand". "W" with a mouse icon indicates that the tickets are shared to the web. "X" with a red ticket icon indicates that the tickets are shared to the exchange. "Loc" indicates the office locations from which the tickets were added.

[0051] Fig. 23 shows a pre orders screen, and Fig. 24 shows the comparable screen from the reduced-feature software version. Fig. 25 shows the screens that are applicable to types of deposit payments. Fig. 26 shows the screen for adding new customers, searching for customer information, modifying an existing sale or PO or creating a new sale. Fig. 27 shows the screen for retrieving exchange broker information. Figs. 28 and 29 are inventory management screens.

[0052] The system accommodates sharing tickets with other exchange systems through the screen shown in Fig. 30. Pre order pricing with price and quantity settings is shown in Fig. 31. Fig. 32 shows the screen for categorizing ticket inventory. Fig. 33 shows the screen for adding headliners for events to the brokers' databases. Fig. 34 shows the screen for adding, deleting and modifying options for customer types, office locations, shipping types and the discounts to the database. Fig. 35 is a referral list screen for adding and deleting customer

referrals. Figs. 36 is a shopping cart screen. The broker-to-broker (B2B) screen Fig. 37 permits regulating payment types and reserved times individually for all of the brokers 12 who use the exchange.

[0053] Fig. 38 is a report mailing list screen. Fig. 39 is a screen for event reporting and Fig. 40 shows current events. Fig. 41 is a sold tickets search utility and Fig. 42 shows a sold tickets report. Fig. 43 shows a reserve ticket list. Fig 44 shows an expired inventory report, which is automatically generated. Fig 45 shows an automatically generated report of tickets with no purchase orders. Fig. 46 shows an automatically generated sold tickets report. Fig 47 shows a fax list search report. Fig. 48 shows a sample fax form. Fig. 49 shows a fax list for a number of days and Fig. 50 shows the automatically generated report. Figs. 51-54 show shipping, invoice, PO and web sales register screens respectively. Fig. 55 shows exchange transactions. Fig. 56 shows sales by event and Fig. 57 shows sales by payment type. Fig. 58 shows daily payments and deposits. Fig 59 shows daily purchases by payment type. Fig 60 shows canceled orders. Figs. 61 and 62 show tax information pertinent to the city of Chicago. Fig. 63 shows purchases for an event. Fig. 64 is an event picker. Fig. 65 shows purchase orders by event. Fig 66 shows an example of a screen displaying event sales. Fig. 67 shows an event sales report. Figs. 68-71. show weekly sales report information. Fig. 72 shows an event profit/situation screen. Fig. 73 shows selected events. Fig. 74 shows a daily total report. Fig. 75 shows a custom web sales representatives and dates report. Fig 76 shows a sales report, including a breakdown by representative.

[0054] It is to be understood that while certain embodiments and/or aspects of the invention have been shown and described, the invention is not limited thereto and encompasses various other embodiments and aspects.